

1260 Buckingham
Birmingham, MI 48009

February 28, 2012

Executive Secretary
Michigan Public Service Commission
PO Box 30221
Lansing, MI 48909

Dear Executive Secretary,

Smart Meters: Case Number U-17000

We oppose the use of smart meters because of human health and privacy concerns and because they produce negligible benefit for consumers. We are also concerned that FCC approved standards and guidelines for environmental exposure to radio frequency (RF) transmissions are totally inadequate and should not be relied on by regulating bodies such as yours.

Health Concerns Humans, indeed all forms of life, are electrical beings. All the chemical activity within the cells we are made of, and all the exchanges across cell membranes are all electrical events. It isn't surprising that exposure to even low-level radio-frequency and other electromagnetic emissions have broad ranging biological effects that have consequences for health. B. Blake Levitt's book *Electromagnetic Fields* discusses those consequences. It is best summarized by this sentence:

"In humans, EMFs in various frequencies have been found to adversely affect calcium binding at the cell surface, DNA synthesis, and cell division; to alter circadian rhythms, affect or alter some important enzyme activities, and affect specific glands like the pineal and hypothalamus area of the brain, as well as the production of certain neurotransmitters like serotonin and dopamine; to increase the permeability of the blood-brain barrier; to create artificial stress responses; to overstimulate the immune system initially, then suppress it and decrease T-lymphocyte production; and to promote malignant tumor growth with particular concentrations in the central nervous system, in the blood and skeletal systems, and in glandular tissue." (pp. 356-7).

These effects are cumulative: a single exposure, like a single cigarette, is inconsequential whereas repeated daily exposure over decades can have serious health consequences. For example, there are six billion cell-phones in use worldwide and it has been projected that there will be an epidemic of malignant brain tumors within 15 years. The effect of radio-transmitting meters is cumulative in another respect; their electromagnetic emissions will add to the environmental load from micro-wave ovens, cordless telephones, cell phones, and WiFi. No one knows how these various emissions interact, or even whether they do interact.

Inadequacy of FCC Standards Regulating bodies rely on FCC approved standards and guidelines for environmental exposure to radio frequency emissions when considering the possible health consequences of smart phones. These standards are totally unreliable in this context. They were designed to prevent burning or electric shock for a 200 lb. adult male. They fail to address the much more subtle effects alluded to in the previous paragraph. Furthermore, the standards relate to the effects on adult males, whereas subjects that are much more sensitive and therefore at risk are those developing biologically such as embryos, fetuses, and children and also both domestic and wild animals and plants. The existing standards need to be replaced by biologically based standards.

The Commission needs to be mindful of earlier scientific advances that were deemed to be safe for decades before they were withdrawn. These include DDT, thalidomide, and organo-phosphate herbicides – used in Agent Orange. In this context, the *Bio-initiative Report*, updated in 2011, a well-documented review of health concerns with electromagnetic devices, concludes the section on *Evidence for Inadequacy of the Standards* with the following:

“Some reports of biological effects that cannot be explained by thermal mechanisms are in the scientific literature. These will require much more research to fully understand the mechanisms involved. Regardless of the mechanism, reports of effects that are at or below the current recommended standards deserve rapid evaluation.”

Given that conclusion, the only responsible policy would be to observe the precautionary principle, the principle that wasn't acted on in the cases of DDT, thalidomide, and organo-phosphate herbicides. That would mean not authorizing the use of smart meters until there are realistic standards and the meters themselves use technology that is known to be safe.

Privacy Concerns An electricity, gas, or water utility only needs to know our total consumption each month in order to bill us. When it gathers consumption information many times a day inferences can be made about our lives that are no business of the utility. It can sell the information to commercial interests that could profit from the information. Even if the utility were forbidden to share the information, hacking is so prevalent and apparently easy that the data would be shared. These concerns need not arise if we kept simple manually read meters.

Consumer Benefit It is clear how utilities plan to benefit from installing smart meters, they will save the cost of meter readers. The benefits for consumers will be negligible. They are such things as identifying when a consumer has lost electrical service, or has unusually high water use that might suggest a garden hose left running. This would be a benefit in the cases where the consumer is absent for several days. This kind of benefit is negligible relative to the large capital expenditure involved. Furthermore, we question whether the investment will pay off. If the payback period for

smart meters is, say, ten years, we suggest that new, better meter-reading technology will likely be available by that time, which would prove radio-transmitting meters not only to be harmful but also a waste of resources.

Opt-out Option If, after consideration, the Commission proceeds to permit installation of smart meters, then any reasonable appreciation of their potential health and privacy problems would strongly suggest that the utilities using them should provide an opt-out option. The option should be made clear to their consumers before installation. Last year Detroit Edison installed a smart meter at our house without prior consultation. If we had known what we now know about smart meters, we would have prevented the installation. Also opting out should not result in withdrawal of service or in additional cost to the consumer. By opting out, the consumer is saving the cost of installation, which would not be offset by savings for the utility for several years.

Yours sincerely,

Anne and Peter Bray.